



CONSTRUCTION AND STANDARDIZATION OF ACADEMIC RESILIENCE SCALE

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ABSTRACT

The paper deals in detail with the development and standardization of Academic Resilience Scale for Kashmiri migrant adolescents. At the initial stage, the scale consisted of 93 items. Then number of items was reduced to 68 after extensive scrutiny by the subject experts. Subsequently item-analysis was carried out. Finally, a set of 55 items were retained for the final scale. The final version of the academic resilience scale consists of 40 positive and 15 negative items. The test-retest reliability was found to be 0.72. The concurrent validity of the scale was assured by evaluation from subject experts.

KEY WORDS: Academic Resilience, Kashmiri Migrant Adolescents, Standardization.

Introduction

Academic resilience is the ability to flourish or succeed in academics despite the adversity that the individual faces. Alva (1991) asserted that academically resilient students are those "who sustain high levels of achievement motivation and performance despite the presence of stressful events and conditions that place them at risk of doing poorly in school and ultimately dropping out of school. Morales (2008) said that academic resilience is the study of high educational achievement despite the presence of risk factors that normally portend low academic performance. Academic resilience can be understood as the process and results that are part of the life story of an individual who has been academically successful despite obstacles that prevent the majority of others with the same background from succeeding. So it becomes imperative to study the academic resilience among the students facing adversities. For this, Academic Resilience scale was constructed and standardised by using Likert's method (1932). The process of scale construction involved three phases:

1. Planning phase
2. Construction phase
3. Standardization phase

(1) Planning phase: This phase involved following steps:

- i. Identification of the dimensions of academic resilience
- ii. Operational definition of Academic resilience
- iii. Methodology for scale construction

i. Identification of the dimensions of academic resilience:

After extensive review of available literature and discussions with the subject experts, five dimensions of academic resilience i.e. Personal accountability, Positivity, Self reliance, Persistence and Problem solving ability were identified to deal with in the present study.

ii. Operational definition:

Academic resilience means achieving better than expected educational outcomes despite the presence of stressful events, environmental conditions or personal vulnerabilities that are known to place students at risk of doing poorly at school.

iii. Methodology for scale construction:

In order to construct the Academic Resilience scale, Likert's (1932) technique of summated ratings was used as this technique is the most widely used technique for the collection of data in studies related to the field of behavioural sciences particularly for survey and descriptive studies. The most commonly used form of Likert's scale for research purposes is the five point rating scale that includes a continuum of alternative responses, which may range from strongly agree to strongly disagree. For the scoring purposes, numerical weights of 1 through 5 were assigned to each category, so that 5 stands for most

favourable and 1 for the least favourable response.

(2) Construction phase: The construction phase involved following steps:

- i. Preparation of item pool for the scale
- ii. Editing of the items and Provisional draft of the scale
- iii. Directions for the respondents
- iv. Try out of the scale
- v. Item Analysis
- vi. Selection of items and Preparation of the Final draft of the scale
- vii. Scoring system

i. Preparation of item pool for the scale:

After extensive review of available literature, an item pool of statements covering five dimensions of academic resilience i.e. Personal accountability, Positivity, Self reliance, Persistence and Problem solving ability were prepared. The critical analysis of relevant literature as well as the extensive discussions with the field experts helped the investigator to prepare the preliminary draft of the scale containing 93 statements covering above mentioned five dimensions of academic resilience.

ii. Editing of the items and Provisional draft of the scale:

In the Likert's technique of scale construction, the process of editing the items is significantly important. The prepared items were reviewed and edited according to the guidelines provided by Wang (1932), Thurstone and Chave (1929), Likert (1932), Bird (1940), Edwards and Kilpatrick (1948). The prepared pool of 93 statements was submitted to subject experts for avoiding grammatical inaccuracies, repetitiveness and ambiguities, if any. The investigator approached 12 experts with long standing experience in the field of education, psychology, research and language for examining the preliminary draft of the scale. Each of the experts was requested to critically evaluate every statement, whether it should be modified, deleted or retained. After expert evaluation, the investigator with her supervisor devoted several sittings to modify the statements. Subsequently, a provisional draft containing 68 statements was prepared.

iii. Directions for the respondents:

On the front page, directions for the respondents were printed. The respondents were asked to fill up his/her name, gender, age and class. The respondents were directed to read each statement carefully and answer by marking a tick (✓) in front of that statement in the appropriate box. They were told to tick only one option out of strongly agree, agree, undecided, disagree, strongly disagree; that is most appropriate and true in his/her case. They were requested to answer honestly and respond to all the statements. They were also assured that their answers would be kept confidential.

iv. Try out of the scale:

The prepared draft of academic resilience was ready for first try out. For the first try out, Government mixed (migrant) higher secondary school, Purkhoo, Jammu was finalised. For this purpose, 100 adolescent Kashmiri migrant students, studying in 11 and 12 classes of the school were selected. The data obtained was used for item analysis of the academic resilience scale.

v. Item-Analysis:

Item analysis is a technique used for selecting and rejecting the items in a scale on the basis of their difficulty value and discriminative power. As far as the present scale is a rating scale concerned with securing an expression of opinion for the trait being measured, so it was not meant for evaluating any right or wrong responses. Thus the concept of difficulty value does not work here. Therefore only discrimination index was worked out during the construction of the present tool.

Item Discrimination index:

The extent to which a given item discriminates among high and low groups determines the discrimination index of an item. Kelly's dichotomy was used to obtain high and low groups. Kelley (1939) proposed that the product moment correlation between a test item score and the total score could be estimated by using only the tails of the distribution and the most efficient division was to use top and bottom 27% tails. The investigator followed the same procedure for the construction of the present tool. The 100 scores obtained by first try out of the scale were arranged in descending order. The 27% top and 27% bottom scores formed the higher and lower group respectively. Each of the high and low group comprises of 27 students. In order to calculate the discriminating power of each item, the mean of every item for high and low groups was compared. The formula used for item discriminative power of each item was

$$\text{Discriminative Power} = \frac{(\sum H - \sum L)}{(N/2)}$$

Where,

$\sum H$ = Sum of all scores of a particular item responded by higher group

$\sum L$ = Sum of all scores of a particular item responded by lower group

N = Total number of students in higher and lower group

In order to select each item objectively and scientifically, the above discussed statistics was followed and discriminative power of each of the 68 items was found out.

vi. Selection of items for the final draft of the scale:

On the basis of discriminative power obtained, items for the final draft of the academic resilience scale were selected. The items falling in the range between 0.20- 0.90 were selected and others were discarded from the final draft of the scale. As a result, only 55 items were left for the final form of the academic resilience scale.

vii. Scoring procedure:

As the present scale is a Likert Type Scale, with multiple choice responses presented in a continuum on a five point scale, ranging from 1 to 5. The scoring for positive and negative items to be done as follows:

Table 1: Scoring system

| Items | Strongly agree | Agree | Undecided | Disagree | Strongly disagree |
|----------|----------------|-------|-----------|----------|-------------------|
| Positive | 5 | 4 | 3 | 2 | 1 |
| Negative | 1 | 2 | 3 | 4 | 5 |

The scores thus obtained to be added together to yield the total score of a respondent.

The details of scoring for positive and negative items are:

Table 2: Scoring

| | |
|----------------|---|
| Positive items | Item number- 1,2,4,5,6,7,8,9,10,12,13,14,15,16,18,20,22,23,25,26,28,29, 31,32, 33,34,36, 38,39,40,41,43,44,45,46,47,49,52,53,54 |
| Negative items | I Item number- 3,11,17,19,21,24,27,30,35,37,42,48,50,51,55 |

Theoretically, the scores range from 55 to 275. The higher scores reflect the higher academic resilience and vice versa.

4. Standardization phase:

The standardization of the scale involves following steps:

i. Determination of the reliability of the scale:

Reliability refers to the extent to which a measuring device yields consistent results upon testing and retesting, that is, dependability for predictive purposes. For this purpose, a trial run of the present scale was made to find out the reliability of the scale. The test- retest reliability method was found suitable for the present scale as split half, alternative or parallel forms and rational equivalence methods were not feasible to be followed. For the purpose of finding test- retest reliability, Government Mixed (Migrant) Higher Secondary School, Nagrota, Jammu was selected. The scale was administered on 100 adolescent Kashmiri migrant students, studying in 11 and 12 classes of the school. After a gap of three weeks, the same test was again administered on the same students under similar conditions. The product moment coefficient of correlation was computed between the two sets of obtained scores. The obtained result was 0.72. This was fairly high to testify the soundness and reliability of the academic resilience scale.

ii. Establishing the validity of the scale:

The validity refers to the degree to which a test measures what it purports to measure. The first essential requirement of any valid test is that it should be highly reliable. The present scale shows fairly high reliability coefficient. Anastasi (1951) says 'the question of test validity concerns what the test measures and how well it does so.' Cronbach (1960) says that validity may be determined by showing 'that a test corresponds to the trait intended to be measured, or it may be established inductively by naming the traits represented in the items in hand.' The concurrent validity of the scale was assured by evaluation from subject experts.

iii. Setting of the time limit for the scale:

The average time taken by 75% respondents to reach the last item was fixed as the duration to complete the test. Thus, 20 minutes was fixed as the time limit for the test, including the time to read the instructions.

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